

Metal Salt
Room
1,500 gals

Material Safety Data Sheet
May be used to comply with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200. Standard must be
consulted for specific requirements

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As used on Label and List)

LIQUID ALUMINUM SULFATE

Note: Blank spaces are not permitted, if any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name HOLLAND COMPANY, INC.	Emergency Telephone Number 413-743-1292
Address (Number, Street, City, State and Zip Code) 153 HOWLAND AVENUE	Telephone Number for Information 413-743-1292
ADAMS, MASSACHUSETTS 01220	Date Prepared DECEMBER 2000
	Signature of Preparer (optional)

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))		
	OSHA PEL	ACGIH TLV
AL₂(SO₄)₃ x H₂O	NONE	2mg(AL)/m³ in air (Aluminum Soluble Salts)
CAS 17927-65-0		
Common Names:		
Papermakers Alum	DOT: Environmentally Hazardous Substance	
Filter Alum	Liquid, N.O.S., 9, UN 3082, PG III, RQ	
Liquid Alum	(Aluminum Sulfate Solution) pH in concentrate >2.0	

Section III - Physical/Chemical Characteristics

Boiling Point	212°F	Specific Gravity (H ₂ O=1)	1.33
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A

Solubility in Water: 100 %

Appearance and Odor: Clear green/amber to colorless, negligible odor

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) Non Flammable	Flammable Limits N/A	LEL N/A	UFL N/A
Extinguishing Media N/A			

Special Fire Fighting Procedures
N/A

Unusual Fire and Explosion Hazards
At elevated temperatures > 1400°F may cause toxic gases (sulfur oxides) to form.

Section V - Reactivity Data

Stability	Unstable		Conditions to Avoid: Aluminum Sulfate precipitates alkalis and lowers pH in aqueous solutions.
	Stable	X	

Incompatibility (Materials to Avoid)

Those which are sensitive to lowered pH

Hazardous Decomposition or Byproducts

As under section IV (Fire & Explosion Hazards)

Hazardous Polymerization	May Occur		Conditions to Avoid N/A
	Will Not Occur	X	

Section VI - Health Hazard Data

Route(s) of Entry:	Inhalation	Skin - Eyes	Ingestion
	Mist may cause irritation	May cause irritation	May cause irritation

Health Hazards (Acute and Chronic)LD 50 (Mouse) 6207 mg/kg - Registry of Toxic Effects Dept. Health & Human Services
1985 - 86 ed

NFPA Code: 1,0,0 - HMIS Code 1,0,0

Carcinogenicity:

Not regulated as a carcinogen by OSHA or listed by NTP.

Signs and Symptoms of Exposure: Irritation, if ingested nausea, vomiting, abdominal pain.**Medical Conditions Generally Aggravated by Exposure:** Unk.**Emergency and First Aid Procedures:**

Eyes - flush with water; Skin - flush with water; Ingestion - give large quantities of water or milk and induce vomiting; In all cases get medical attention if discomfort persists.

Section VII - Precautions for Safe Handling and Use**Steps to Be Taken in Case Material Is Released or Spilled**

Flush small spills with water, dike & neutralize large spills with alkalies such as Lime, Soda Ash, Caustic Soda (Be alert to Carbon Dioxide Generation from first two alkalies).

Waste Disposal Method

RCRA status of unused material if discarded - not a "HAZARDOUS WASTE". Dispose of in accordance with all federal, state and local regulations.

Precautions to Be Taken in Handling and Storing:

To avoid irritation wear gloves and eye protection when in direct contact with material

Other Precautions

Recommended maximum use for potable water of 150 mg/liter

Section VIII - Control Measures**Respiratory Protection (Specify Type):** None usually required.

Ventilation	Local Exhaust: None required	Special: None required
	Mechanical (General): None required	Other: Conc in air for mist TLV: 2 mg/(A)/M ³ ACGIH

Protective Gloves	Eye Protection
Rubber or equivalent	Goggles

Other Protective Clothing or Equipment: None**Work/Hygiene Practices:** Limit direct contact to avoid irritation.